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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,311	05/25/2001	David Allan Cook	06007/37458	4324

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MARSHALL, GERSTEIN & BORUN LLP
6300 SEARS TOWER
233 S. WACKER DRIVE
CHICAGO, IL 60606

EXAMINER

LOPEZ, FRANK D

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 12/16/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,311

Applicant(s)

COOK ET AL.

Examiner

F. Daniel Lopez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 06 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 6, 2003 has been entered.

Response to Amendment

Applicant's arguments filed January 8, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1-10 and 13 have been considered but are deemed to be moot in view of the new grounds of rejection.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claims 1-10 and 13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 31-3 "check valve including a second component arranged to prevent the passage of hydraulic fluid in both directions" is confusing. Suggest that --a check valve assembly-- be claimed, which would include the second component and a check valve as the first component.

In claim 7 line 23 and claim 10 line 32 "check valve" should be --check valve assembly--, with corresponding changes to the rest of the claim, since the claimed check valve includes a pressure responsive valve (39), in addition to the check valve.

In claim 8 and 9 "the check valve is arranged to permit raising (lowering) of the loader arm when the first and second control valves are both shifted to the second position" is confusing, since when the selector valve is moved to raise or lower the

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loader arm, the first and second control valves are shifted from the second position to the first position, by actuation of the switch 44 (see e.g. paragraph bridging pages 6 and 7). Therefore, the first and second control valves are not in the second position when the arm is raised or lowered (see claims 4 and 13 for appropriate limitations).

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Claim Rejections - 35 USC § 103

Claims 1-3, 6-10 and 14 are rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al and A'Hearn et al. Bauer discloses a wheeled loader comprising an arm (21) pivotally connected at a rear end of a body (12, 13) and extending forwardly, such that a working implement (27) is in front of the body; a cylinder (25, 26) having first and second chambers (connected to 230, 231, respectively) connected to a manually operated selection valve (80), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; but does not disclose first and second electrically operated solenoid type control valves having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator, permitting flow only from the accumulator to the first chamber in the first position, and the second control valve connected between the second chamber and a low pressure region, preventing flow therebetween in the first position; wherein a manually operated switch supplies current to the solenoid valves; that there is a check valve connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to open the check valve; that at least one of the accumulator, solenoid valves, check valve and connecting pipes are made of metal; or that the first and second control valves are electrically operated solenoid type valves.

Marchi et al teaches, for a wheeled loader comprising an arm (e.g. 14) pivotally connected to a body (10); a cylinder (18) having first and second chambers (26, 24) connected to a manually operated selection valve (34), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there is a check valve (42) mounted directly to the cylinder and connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means (46) for connecting the second chamber to a fluid responsive means to open the check valve, for the purpose of preventing a drop of the arm when a fluid passage fails (e.g. column 2 line 42-47).

Since Bauer and Marchi et al are both from the same field of endeavor, the purpose disclosed by Marchi et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount a check valve directly to the cylinder and connect the check valve between the first chamber and the selection valve of Bauer, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to open the check valve, as taught by Marchi et al, for the purpose of preventing a drop of the arm when a fluid passage fails.

A'Hearn et al teaches, for a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers (connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there are first and second manually operated piloted control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting

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flow only from the accumulator to the first chamber in the first position (via 60), and the second control valve connected between the second chamber and a low pressure region (23), preventing flow therebetween in the first position, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Since Bauer and A'Hearn et al are both from the same field of endeavor, the purpose disclosed by A'Hearn et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to provide first and second manually operated control valves having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator of Bauer, permitting flow only from the accumulator to the first chamber in the first position, and the second control valve connected between the second chamber and a low pressure region of Bauer, preventing flow therebetween in the first position, as taught by A'Hearn et al, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Official notice is taken that it is well known that piloted control valves and electrically operated solenoid type control valves are functionally equivalent in the loader art. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the control valves of the modified Bauer electrically operated solenoid type control valves, as a matter of engineering expediency.

Official notice is taken that it is well known to make at least one of the accumulator, solenoid valves, check valve and connecting pipes from metal. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make at least one of the accumulator, solenoid valves, check valve and connecting pipes of the modified Bauer from metal, as a matter of engineering expediency.

Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al in view of A'Hearn et al, as applied to claim 1 above, and further in view of Japan 64-66324. The modified Bauer discloses all of claim 5, but does not disclose that the accumulator and control valves are mounted directly on the cylinder.

Japan 64-66324 teaches, for a wheeled loader comprising an arm pivotally connected to a body (abstract); a cylinder (8) having first and second chambers (8a, 8b) connected to a manually operated selection valve (13), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; with a first electrically operated solenoid type control valve (15) connected between the first chamber and an accumulator (18), and having a first position where passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, for absorbing shocks from the arm; that the accumulator and control valve are mounted directly on the cylinder.

Since the modified Bauer does not disclose how the accumulator and control valves are mounted, and Japan 64-66324 does; it would have been obvious at the time the invention was made to one having ordinary skill in the art to mount the accumulator and first control valve of the modified Bauer directly on the cylinder, as taught by Japan 64-66324, as a matter of engineering expediency.

Official notice is taken that it is well known to place all valves in a common valve block, for ease of assembly. Since the check valve and the first solenoid valve of the modified Bauer are directly mounted on the cylinder; it would have been obvious at the time the invention was made to one having ordinary skill in the art to place the check valve, and first and second control valves of the modified Bauer in a common block, mounted to the cylinder, for ease of assembly.

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Claims 4 and 13 are rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al in view of A'Hearn et al, as applied to claims 2 and 10, respectively, above, and further in view of Drake et al. The modified Bauer discloses all of claims 4 and 13, but does not disclose a switch sensing a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open.

Drake et al teaches, for a wheeled loader comprising an arm (22) pivotally connected to a body (12); a cylinder (32, 34) having first and second chambers (42, 44) connected to a manually operated selection valve (46), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; first and second control valves (74, 76) having a first position where passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, with the first control valve connected between the first chamber and an accumulator (72) and the second control valve connected between the second chamber and a low pressure region (28); that a switch (86) senses a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open, for the purpose of being able to manually control the position of the arm.

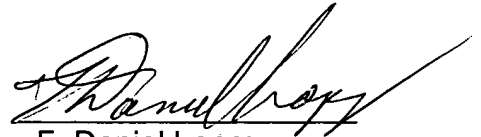
Since the modified Bauer and Drake et al are both from the same field of endeavor, the purpose disclosed by Drake et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to provide a switch to sense a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open, as taught by Drake et al, for the purpose of being able to manually control the position of the arm.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
December 12, 2003